

### REMARKS-General

1. The newly drafted independent claims 8 and 17 include limitations previously brought forth in the disclosure. No new matter has been included. All new claims 8-20 are submitted to be of sufficient clarity and detail to enable a person of average skill in the art to make and use the instant invention, so as to be pursuant to 35 USC 112.

#### Response to Rejection of Claims 1-7 under 35 USC 103

2. Pursuant to 35 U.S.C. 103(a), "(a) a patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made."

3. In view of 35 U.S.C. 103(a), a patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that **the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.**

In other words, the examiner alleges that the differences between the subject matter sought to be patent as a whole of the instant invention and Marlton (US 00594467A) which is qualified as prior art of the instant invention under 35USC102(b) are obvious in view of Min (US006184907B1), Yamada (US006333788B1), Kemeny (US0067013931B1), and Welles (US004646151A) at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains.

4. See Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick, 221 U.S.P.Q. 481, 488 (Fed. Cir. 1984) ("The claimed invention must be considered as a whole, and the question is whether there is something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination"), Marlton,

in view of Min, further in view of Yamada fail to suggest the following distinctive features of the instant invention:

(i) a **horizontal direction image processing unit** electrically coupled to the input processing unit, **receiving the image data at the first access frequency from the input processing unit and downscaling the image data in horizontal direction to generate a first temporary image data at the first access frequency**; (claims 8, 17)

(ii) a **first stage line buffer unit** electrically coupled to the horizontal direction image processing unit, **temporarily storing the first temporary image data at the first access frequency**, wherein the first stage line buffer unit comprises a **plurality of line buffers in series for periodic storing of the first temporary image data in each line buffer**; (claims 8, 17)

(iii) a **vertical direction image processing unit** electrically coupled to the first stage line buffer unit, **receiving the first temporary image data at the first access frequency from the first stage line buffer unit and downscaling the first temporary image data in vertical direction to generate a second temporary image data at the first access frequency**; (claims 8, 17)

(iv) a **second stage line buffer unit** electrically coupled to the vertical direction image processing unit, **temporarily storing the second temporary image data at the first access frequency**; (claims 8, 17)

(v) an **output processing unit** electrically coupled to the second stage line buffer unit, **reading the second temporary image data from the second stage line buffer unit at a second access frequency** to generate the destination image; (claims 8, 17)

(vi) the **first stage line buffer unit** is a **first stage First-In-First-Out buffer unit** comprising a **plurality of First-In-First-Out buffers in series**, wherein an input terminal of each of First-In-First-Out buffers is output terminals of the first stage line buffer unit; (claims 9, 18)

(vii) the **horizontal direction image processing unit** comprising: a **horizontal direction data calculating element** electrically coupled to the input processing unit, receiving the image data **at the first access frequency** from the input

processing unit and downscaling the image data in horizontal direction to generate the first temporary image data **at the first access frequency** and a **horizontal direction data controlling element** electrically coupled to the horizontal direction data calculating element, controlling the horizontal direction data calculating element to receive the image data **at the first access frequency** and to generate the first temporary image data **at the first access frequency**; and (claims 12, 13)

(viii) the **vertical direction image processing unit** comprising: a **vertical direction data calculating element** coupled to the first stage line buffer unit, receiving the first temporary image data **at the first access frequency** from the first stage line buffer unit and downscaling the first temporary image data in vertical direction to generate the second temporary image data **at the first access frequency** and a **vertical direction data controlling element** electrically coupled to the vertical direction data calculating element, controlling the vertical direction data calculating element to receive the first temporary image data **at the first access frequency** and to generate the second temporary image data **at the first access frequency**.(claims 14, 15, 16)

5. In any case, even combining Marlton, Min, Yamada, Kemeny, and Welles would not provide the above distinctive features of the instant invention as claimed -- a clear indicia of nonobviousness.

6. The principle cited art, Marlton (US 005594467A), fails to teach or suggest (i) a **circuit and method** downscaling a source image in both horizontal and vertical directions to generate a destination image, wherein the present invention utilizes a **first stage line buffer unit for temporarily storing a first temporary image data at a first access frequency provided by a horizontal direction image processing unit and a second stage line buffer unit for temporarily storing the second temporary image data at the first access frequency provided by a vertical direction image processing unit**; and (ii) the first stage line buffer unit comprising a plurality of line buffers **in series** for periodic storing of the first temporary image data in each line buffer.

7. In addition, even though Marlton discloses a concept of horizontal scaling means for magnifying or reducing the horizontal scale and vertical scaling means for

magnifying or reducing the vertical scale, Marlton fails to teach or suggest a **first stage line buffer unit comprising a plurality of line buffers in series for periodic storing of the first temporary image data in each line buffer** as claimed in the newly drafted independent claims 8 and 17.

8. In other words, the difference between the newly drafted independent claims 8 and 17 of the instant invention and Marlton further includes a **horizontal direction image processing unit for receiving the image data at the first access frequency** from the input processing unit and **downscaling the image data** in horizontal direction to generate a first temporary image data **at the first access frequency**, a **first stage line buffer unit for storing the first temporary image data at the first access frequency**, a **vertical direction image processing unit for receiving the first temporary image data at the first access frequency** from the first stage line buffer unit and **downscaling the first temporary image data** in vertical direction to generate a second temporary image data **at the first access frequency**, a **second stage line buffer unit for temporarily storing the second temporary image data at the first access frequency**, and an output processing unit for reading the second temporary image data from the second stage line buffer unit **at a second access frequency** to generate the destination image, which are neither taught nor suggested by the cited arts, Min and/or Yamada.

7. Applicant believes that neither Marlton, Min, Yamada, Kemeny, nor Welles, separately or in combination, suggest or make any mention whatsoever of using any **first stage line buffer unit comprising a plurality of line buffers in series for periodic storing of the first temporary image data in each line buffer** as claimed in the instant invention.

8. In view of the above, it is submitted that the newly drafted claims 8-20 are in condition for allowance. Reconsideration and withdrawal of the rejection are requested. Allowance of claims 8-20 at an early date is solicited.

9. The cited but not relied upon references have been studied and are greatly appreciated, but are deemed to be less relevant than the relied upon references.

10. The applicant submits a Power of Attorney herewith to revoke all powers of attorney or authorizations of agent in the instant invention and appoint the following signed agent to prosecute the above identified application.

11. Should the Examiner believe that anything further is needed in order to place the application in condition for allowance, he is requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,



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#### CERTIFICATE OF MAILING

I hereby certify that this corresponding is being deposited with the United States Postal Service by First Class Mail, with sufficient postage, in an envelope addressed to "Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" on the date below.

Date:

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Signature:

  
Person Signing: Raymond Y. Chan